

Restaurant upgrades to energy efficient walk-in solution

Application

Refrigeration systems for walk-in coolers and freezers.

Customer

Medford Wellington Service Co., a leading New England specialty HVAC/R and facilities contractor since 1967, servicing Bertucci's Italian Restaurant, a full-service restaurant chain operating more than 80 locations.

Challenge

With aging refrigeration systems, Bertucci's shifted its attention toward planning to improve critical operating systems, with a focus on more efficient and sustainable solutions. Bertucci's turned to Medford Wellington, who helped identify several key opportunities:

- Walk-in refrigeration systems employed traditional, less efficient technologies, while electricity rates had climbed to their highest levels, averaging \$0.16 or more per kWh
- Though capital budgets for equipment upgrades were constrained, utility companies offered valuable rebate incentives for proven energy-efficient technologies
- Some walk-ins required an increasing number of service calls, raising annual service maintenance expenses above average at certain locations
- While existing systems were generally reliable, when a failure did occur, repairs would take longer to perform than normal due to system design, adding to service costs



"Medford Wellington and Emerson have helped us start saving on our energy costs, and the new systems are operating virtually maintenance-free."

Kevin Bakas, Sr. Director of Construction
Bertucci's Italian Restaurant



Solution

New energy-efficient refrigeration equipment is available for walk-in systems, but even with a two-year payback or less for the price premium, many operators remain reluctant to make the added upgrade investments. In order to demonstrate expected savings and ROI to their customer, Medford Wellington enlisted Emerson Climate Technologies for assistance on a field trial study of the new Copeland Scroll® Outdoor Condensing Unit (XJ Series) at Bertucci's restaurants. The XJ unit's performance and energy savings were measured for nearly a year in comparison to existing standard equipment.

In addition to the XJ Series unit upgrade, Medford replaced the hot gas defrost with a more suitable defrost scheme, and installed evaporator fan units with more efficient ECM motors. The energy efficiency of the entire system was improved beyond initial expectations, allowing for application to the regional utility company for a valuable custom energy rebate incentive toward future upgrade investments.

Result

- The XJ Copeland Scroll Outdoor Condensing Unit accounted for approximately 35% annual energy savings when compared to legacy technology units
- Built-in CoreSense™ Diagnostics will allow Medford's technicians information to quickly and accurately troubleshoot any issues, avoid unneeded service calls, and protect the system from premature failure
- Bertucci's anticipates nearly 60% total energy savings from each upgrade
- A custom utility rebate was approved for up to 50% of total installation costs, significantly improving projected ROI for subsequent equipment upgrades
- Bertucci's is working toward a planned phase-in of the Copeland Scroll units to accelerate improvements in bottom-line financial performance

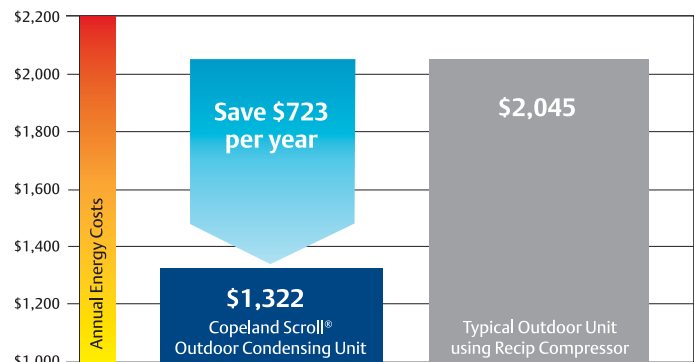


"The XJ Copeland Scroll enabled us to earn up to a 50% rebate through our local utility because of its high energy efficiency."

Jay Annarelli, General Manager
Medford Wellington Service Co. Inc



Annual Savings with Copeland Scroll® Outdoor Condensing Unit



* Source of savings estimate – lab testing and AEER analysis of 1.5HP medium temperature units in Climate Zone 2 at \$0.16/kWh. Results may vary depending on system and location. Complete details and energy calculator available at EmersonClimate.com/copelandoutdoorunit

Advanced walk-in refrigeration technology

The Copeland Scroll Outdoor Condensing Unit ranges in size from 1.5-6 HP, offering energy savings of up to 40% compared to standard industry condensing units, making it perfectly suited for many walk-in cooler and freezer applications. The XJ unit incorporates multiple advances in refrigeration as standard features into a single unit solution, including:

- The latest generation Copeland Scroll refrigeration compressors which have been optimized for the highest annual energy efficiency
- Ultra-quiet and efficient Variable Speed PSC fan motors
- Large condenser coils for more efficient heat transfer
- High efficiency fan blade design
- Proprietary electronic algorithms to optimize energy performance
- Exclusive Enhanced Vapor Injection (EVI) circuit on Low Temp units for added capacity and system efficiency
- Exclusive CoreSense Diagnostics to enable faster, more accurate service, along with compressor protection benefits to lower total lifecycle costs

The XJ unit's slim profile, light weight, wall mount capability, and sound reduction features may also offer customers added benefits from:

- Crane rental savings
- Flexible location options previously not available
- Ease of installation and service savings
- Compliance with noise ordinances
- A more attractive and quieter atmosphere for neighbors and customers

Resources

Learn more about the Copeland Scroll Outdoor Condensing Unit at: EmersonClimate.com/copelandoutdoorunit



EmersonClimate.com